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## **Is high-sensitivity C-reactive protein related to central obesity? The Qazvin Metabolic Diseases Study**

**Azam Ghorbani<sup>1</sup> , Neda Esmailzadehha<sup>2</sup> , Amir Ziaee<sup>3</sup> , Zahra Mohammadi<sup>2</sup> ,  
Parvaneh Mahmoodi<sup>2</sup>**

### **Abstract:**

**Background:** High-sensitivity C-reactive protein (hs-CRP) has been shown predict cardiovascular disease (CVD) and is associated with CVD risk factors (i.e. central obesity) and the metabolic syndrome. The aim of this study was to determine the association of central obesity and hs-CRP in Qazvin, Iran

**Methods:** This cross-sectional study was conducted in 1071 people (aged 20–78 years old) who were randomly selected using multistage random sampling method between September 2010 and April 2011 in Qazvin, Iran. Waist circumference (WC) and hs-CRP level were measured. Central obesity was defined as  $WC \geq 95$  cm. According to the risk categories recommended by the American Heart Association and Center for Disease Control, hs-CRP was classified as low risk ( $3 \text{ mg/L}$ ). A logistic regression analysis was used to examine the association of central obesity and hs-CRP. **Results:** Of 1107, 527 were male. Mean age was  $40.08 \pm 10.33$  years. Mean hs-CRP level was  $2.04 \pm 4.22$ . 26.5% and 19.4% of the study subjects had moderate risk and high risk hs-CRP, respectively. Three hundred and seventy (33.5%) subjects had central obesity. The mean hs-CRP level was  $3 \pm 4.42$  in the subjects without central obesity and  $2.85 \pm 3.70$  in the subjects with central obesity and the difference was significant ( $P < 0.001$ ). WC was associated with moderate risk hs-CRP (OR: 1.05, 95% CI: 1.03 – 1.07;  $P < 0.001$ ) and high risk hs-CRP (OR: 1.096, 95% CI: 1.07 – 1.11;  $P < 0.001$ ).

**Conclusion:** With regards to the results, hs-CRP is associated with central obesity among adults in Qazvin. More longitudinal studies are needed to evaluate the association between hs-CRP and WC.

### **Keywords:**

Central Obesity, Waist Circumference, High-Sensitivity C- Reactive Protein

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1) Metabolic Diseases Research Center, Qazvin University of Medical Sciences, Qazvin, Iran :  
ghorbani\_az@yahoo.com

2) Metabolic Diseases Research Center, Qazvin University of Medical Sciences, Qazvin, Iran

3) Growth and Development Research Center, Iran University of Medical Sciences, Tehran, Iran